Serial Number: 10/602,509 Filing Date: June 24, 2003 Title: DYNAMIC TLB LOCKING

Assignee: Intel Corporation

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IN THE CLAIMS

Please amend the claims as follows:

1. (Previously Presented) A method comprising:

determining a number of entries to lock in a translation look-aside buffer (TLB), wherein determining a number of entries to lock comprises counting unique page access instances during an active period of a process, determining a value of a page usage metric for the process, and comparing the value of the page usage metric to values of page usage metrics for other processes; and

locking at least one entry in the translation look-aside buffer (TLB) to make the at least one entry available to the process during at least two active periods of the process.

2-5. (Canceled)

6. (Previously Presented) A method comprising:

determining a number of entries to lock in a translation look-aside buffer (TLB), wherein determining a number of entries to lock comprises counting unique page access instances during an active period of a process, determining a value of a page usage metric for the process, and comparing the value of the page usage metric to a sum of values of page usage metrics for a plurality of processes;

locking at least one entry in the translation look-aside buffer (TLB) to make the at least one entry available to the process during at least two active periods of the process.

7. (Previously Presented) The method of claim 1 wherein determining the value of the page usage metric comprises considering an amount of time the process is active.

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8. (Original) The method of claim 1 wherein the TLB includes a plurality of entries, the

method further comprising determining which of the plurality of entries to lock.

9. (Original) The method of claim 8 wherein determining which of the plurality of entries to

lock comprises selecting a most recently accessed entry.

10. (Original) The method of claim 8 wherein determining which of the plurality of entries to

lock comprises selecting a most commonly accessed entry.

11. (Previously Presented) A method comprising:

counting a number of unique page accesses made by a process running on a processor;

determining a value of a page usage metric from the number of unique page accesses;

determining a number of TLB entries to lock in response to the value of the page usage

metric, wherein determining the number of TLB entries to lock comprises considering the value

of the page usage metric and values of page usage metrics for other processes running on the

processor; and

locking at least one translation look-aside buffer (TLB) entry that corresponds to the

process.

12. (Canceled)

13. (Canceled)

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14. (Previously Presented) The method of claim 11 wherein determining the number of TLB

entries to lock is based, at least in part, on a frequency of invocation of the process.

15. (Previously Presented) The method of claim 11 wherein determining the number of TLB

entries to lock is based, at least in part, on a priority level of the process.

16-18. (Canceled)

19. (Previously Presented) The method of claim 11 wherein determining the value of the

page usage metric comprises considering an amount of time the process is active.

20. (Previously Presented) An apparatus including a medium adapted to hold machine-

accessible instructions that when accessed result in a machine performing:

counting a number of unique page accesses made by a process;

determining a value of a page usage metric from the number of unique page accesses;

determining a number of TLB entries to lock in response to the value of the page usage

metric, wherein determining the number of TLB entries to lock comprises considering the value

of the page usage metric and values of page usage metrics for other processes; and

locking at least one translation look-aside buffer (TLB) entry that corresponds to the

process.

21. (Canceled)

22. (Previously Presented) The apparatus of claim 20 wherein the page usage metric is based,

at least in part, on a frequency of invocation of the process.

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23. (Previously Presented) The apparatus of claim 20 wherein the page usage metric is based, at least in part, on a priority level of the process.

24-27. (Canceled)

28. (Previously Presented) An electronic system comprising:

an amplifier to amplify communications signals;

a processor coupled to the amplifier, the processor including a translation look-aside buffer (TLB) with lockable entries; and

an SRAM storage medium accessible by the processor, the storage medium configured to hold instructions that when accessed result in the processor performing:

counting a number of unique page accesses made by a process;

determining a value of a page usage metric from the number of unique page accesses;

determining a number of TLB entries to lock in response to the value of the page usage metric, wherein determining the number of TLB entries to lock comprises considering the value of the page usage metric and values of page usage metrics for other processes; and

locking at least one TLB entry that corresponds to the process.

29. (Canceled)

30. (Currently Amended) The electronic system of claim 29 28 wherein the page usage metric is based, at least in part, on a frequency of invocation of the process.

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31. (Previously Presented) The method of claim 1 wherein determining the value of the page

usage metric comprises considering a number of previously locked TLB entries for the process.

32. (Previously Presented) The method of claim 6 wherein determining the value of the page

usage metric comprises considering an amount of time the process is active.

33. (Previously Presented) The method of claim 6 wherein the TLB includes a plurality of

entries, the method further comprising determining which of the plurality of entries to lock.

34. (Previously Presented) The method of claim 33 wherein determining which of the

plurality of entries to lock comprises selecting a most recently accessed entry.

35. (Previously Presented) The method of claim 33 wherein determining which of the

plurality of entries to lock comprises selecting a most commonly accessed entry.

36. (Previously Presented) The method of claim 6 wherein determining the value of the page

usage metric comprises considering a number of previously locked TLB entries for the process.

37. (Previously Presented) The method of claim 11 wherein determining the value of the

page usage metric comprises considering a number of previously locked TLB entries for the

process.

38. (Previously Presented) The method of claim 11 wherein considering the value of the page

usage metric and values of page usage metrics for other processes running on the processor

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comprises comparing the value of the page usage metric to a sum of values of page usage metrics

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for a plurality of processes.

39. (Previously Presented) The apparatus of claim 20 wherein determining the value of the

page usage metric comprises considering a number of previously locked TLB entries for the

process.

40. (Previously Presented) The apparatus of claim 20 wherein considering the value of the

page usage metric and values of page usage metrics for other processes running on the processor

comprises comparing the value of the page usage metric to a sum of values of page usage metrics

for a plurality of processes.

41. (Previously Presented) The apparatus of claim 20 wherein determining the value of the

page usage metric comprises considering an amount of time the process is active.

42. (Previously Presented) The electronic system of claim 28 wherein determining the value

of the page usage metric comprises considering a number of previously locked TLB entries for

the process.

43. (Previously Presented) The electronic system of claim 28 wherein considering the value

of the page usage metric and values of page usage metrics for other processes running on the

processor comprises comparing the value of the page usage metric to a sum of values of page

usage metrics for a plurality of processes.

44.(Previously Presented) The electronic system of claim 28 wherein determining the value of

the page usage metric comprises considering an amount of time the process is active.